

## D. Stewardship of Lighthouse Resources

### I. Pretrip Activities

A. Good keeper/bad keeper : “Play for Keepers” . Students will read keeper rules and translate them into their own words. Through this process the students will become aware of writing style of another age, information about keepers’ responsibilities, and constraints on behavior that promote public welfare. This awareness will foster an understanding of stewardship.

### II. Trip Activities

A. Erosion at the Lighthouse: “Slip Sliding Away”. This activity examines the effects of erosion on the island and the weather conditions lighthouse keepers contended with. It also examines steps lighthouse keepers took to preserve the station.

### III. Posttrip Activities

A. “Wrap It Up”. The students will develop a rap, song, play or skit, or use the rap provided, incorporating information from the keepers' rules and the erosion activity.



# **Stewardship of Lighthouses**

## **Lesson Plans**

### **Lesson Title I: “Play for Keepers”**

Pretrip. Fostering a sense of stewardship in students will help provide them with the tools necessary to make informed decisions about preserving their natural and cultural heritage.

### **Lesson Summary:**

Students will read keeper rules and translate them into their own words. Through this process the students will become aware of writing style of another age, information about keepers’ responsibilities, and constraints on behavior that promote public welfare. This awareness will foster an understanding of stewardship.

### **Learning Objectives:**

Students will be able to:

- Read and interpret keeper rules.
- Translate rules into their own rules.
- Display the importance of stewardship through drama.
- Develop a set of rules depicting a sense of personal stewardship.

### **Wisconsin Curriculum Standards Integration Reference:**

English Language Arts Standard:

- A. Reading/Literature: A 8.3, A 8.4, A8.8
- B. Writing: B 8.1
- C. Oral Language: C 8.1, C 8.2, C 8.3
- D. Language: D 8.1
- F. Research and Inquiry: F 8.1

Science Standard:

- G. Science Applications: G 8.2, G 8.3, G 8.5
- H. Science in Social and Personal Perspectives: H 8.2, H 8.3

Social Studies Standard:

- A. Geography, People, Places, and Environment: A 8.4, A 8.6, A 8.8
- B. History Time Continuity and Change: B 8.1, B 8.5, B 8.10

### **Recommended Duration:**

45 minutes to 90 minutes.

### **Discussion Questions:**

- 1) Why are there rules?

## 2) What is stewardship ?

### **Resources, Materials, and Appendix items:**

- Excerpted rules from the book - Instructions to Light Keepers 1902 Edition (on overhead and handouts).
- Overhead projector.
- Materials to write their own rules.

### **Activities and Procedures:**

- 1) The teacher will lead a large group discussion of keeper rules.
- 2) The teacher will ask students to explain each rule in their own words.
- 3) The teacher will write them down.
- 4) The students will break into groups. Each group will select or be assigned one rule.
- 5) The students will develop a role play for their rule, depicting GOOD KEEPER/BAD KEEPER.
- 6) Students will perform their role play for their class.
- 7) Students will write rules pertaining to their personal stewardship.

### **Other Suggested Activities:**

- Students create a crossword pertaining to keepers or personal rules
- Create a venn diagram ( keepers rules/students rules )
- Illustrate and write a sentence to explain a rule
- Write interviews for a keeper... Students will take the role of the keeper

### **Evaluation and Assessment Procedures:**

Student role plays.

Written rules pertaining to personal stewardship

Work Book Log



# **Instructions to Lightkeepers 1902 Edition of Instructions to Light keepers and Masters of Lighthouse Vessels**

## **By Order of the Lighthouse Board**

(The following instructions were published for the guidance of light keepers. They were required to read them carefully and attentively, and to refer to them whenever they had any doubts about their duties or how to performing them.)

1. Keepers must be courteous and polite to all visitors and show them everything of interest about the station at such times as will not interfere with lighthouse duties. Keepers must not allow visitors to handle the apparatus or deface lighthouse property. Special care must be taken to prevent the scratching of names or initials on the glass of the lanterns or on the windows of the towers. The keeper on duty at the time is responsible for any injury or defacement to the buildings, lenses, lamps, glazing of the lantern and to any other lighthouse property under his charge, unless he can identify the parties who have done the injury, so as to make them accountable for it; and any such damage must be reported immediately to the inspector or engineer of the district, with the names of the person or persons, if they can be ascertained. No visitor should be admitted to the tower unless attended by a keeper, nor in the watch room or lantern between sunset and sunrise.

2. The utmost neatness of buildings and premises is demanded. Bedrooms, as well as other parts of the dwelling, must be neatly kept. Untidiness will be strongly reprehended, and its continuance will subject a keeper to dismissal. The premises must be kept clean and well whitewashed; grounds in order; all the inside painted work of the lanterns well washed, and, when required, retouched with paint. The spare articles embraced in the list of allowances must be kept on hand and examined frequently, and should be kept clean and in order for use.

3. If any person or persons shall knowingly and unlawfully cut, or shall knowingly aid, assist, or be employed in unlawfully cutting, or shall wantonly destroy or injure, or procure to be wantonly destroyed or injured, any timber tree or any shade or ornamental tree, or any other kind of tree, standing, growing, or being upon any lands of the United States, which, in pursuance of law, have been reserved, or which have been purchased by the United States for any public use, every such person or persons so offending, on conviction thereof before any circuit or district court of the United States, shall, for every such offense, pay a fine not exceeding five hundred dollars, or shall be imprisoned not exceeding twelve months.

If any person or persons shall knowingly and unlawfully break or destroy any fence, wall, hedge, or gate enclosing any lands of the United States which have, in pursuance of any law, been reserved or purchased by the United States for any public use, every such person so offending, on conviction, shall, for every such offense, pay a fine not exceeding two hundred dollars, or be imprisoned not exceeding six months.

If any person or persons shall knowingly and unlawfully break, open, or destroy any gate, fence, hedge, or wall enclosing any lands of the United States, reserved or purchased as aforesaid,

and shall drive any cattle, horses, or hogs upon the lands aforesaid for the purpose of destroying the grass or trees on the said grounds, or where they may destroy the said grass or trees, or if any such person or persons shall knowingly permit his or their cattle, horses, or hogs to enter through any of said enclosures upon the lands of the United States aforesaid, where the said cattle, horses, or hogs may or can destroy the grass or trees or other property of the United States on the said land, every such person or persons so offending, on conviction, shall pay a fine not exceeding five hundred dollars, or be imprisoned not exceeding twelve months.

4. All persons having charge of property belonging to the Light-House Establishment are held responsible for its preservation and safe-keeping, and are required to take all proper measures to protect it from loss, damage, or waste; and when such property is not satisfactorily accounted for, the officer or other person to whom it was entrusted shall be charged with its value. Keepers and masters of light-vessels must practice the strictest economy in the expenditure of stores and supplies compatible with maintaining at all times the best possible light.

5a. A lighthouse must never be left wholly unattended. Where there is a keeper and one or more assistants, either the keeper or one of the assistants must be present. If there is only one keeper, some competent member of his family, or other responsible person, must be at the station in his absence.

5 b. An accurate report of absences, with the reasons therefore, must be forwarded monthly to the inspector by the keeper.

6a. Watches must be kept at all stations where there is an assistant. The keeper on watch must remain in the watch room and give continuous attention to the light while he is duty. When there is no assistant, the keeper must visit the light at least twice during the night between 8 p.m. and sunrise; and on stormy nights the light must be constantly looked after.

6 b. Where there are assistants, the watches must be divided so that an equal share of work shall fall to each keeper. A watch book must be kept and signed by each person when he comes off watch. He must record in the book the condition of the light and the hour when he left the watch room. If there is a fog signal at the station, and it is in operation, he should also so state, and specify its condition.

6 c. The keeper shall take an equal share in all the work and duties of the station with the assistant keepers.

7. Keepers are cautioned against the violation of the game laws of the State in which their stations may be situated. When practicable they will be provided with a copy of the game laws of the State, and will acquaint themselves as to the requirements of these laws, and not only observe them, but will report to the inspector of the district any violation of them, on or in the immediate vicinity of their stations. It is most desirable that not only the game animals of the country, but that song birds and birds of all kinds should be protected and encouraged to occupy their abodes in their natural habitats, and the Light-House Board directs that all persons in the service not only exercise this spirit of protection, but encourage others to do likewise.

Source: Instructions to Light-Keepers. A photo reproduction of the 1902 edition of Instructions to Light-keepers and masters of Light-House Vessels. Great Lakes Lighthouse Keepers Association. Allen Park, MI. 1989



## **Stewardship of Lighthouses**

### **Lesson Plans**

#### **Lesson Title II: “Slip, Sliding Away”**

Trip: Fostering a sense of stewardship in students will help them make informed decisions about preserving their natural and cultural heritage.

#### **Lesson Summary:**

This activity examines the effects of erosion on the island and the weather conditions lighthouse keepers contended with. It also examines steps lighthouse keepers took to preserve the station. The activity will involve "building" an island and investigating the effects of various types of erosion on the island.

#### **Learning Objectives:**

Students will be able to:

- name two types of weather that can make buildings deteriorate.
- identify two forms of erosion at the lighthouse.
- create one rule for protecting the boathouse.
- create one rule for helping to slow erosion.

#### **Wisconsin Curriculum Standards Integration Reference:**

English Language Arts Standard:

C. Oral Language: C 8.1, C 8.2, C 8.3

D. Language: D 8.1, D 8.2

F. Research and Inquiry: F 8.1

Science Standard:

A. Science Connections : A 8.1, A 8.6 , A 8.8

B. Nature of Science: B 8.2

C. Science Inquiry: C 8.6, C 8.10, C 8.11

E. Earth Science: E 8.1, E 8.2, E 8.3, E 8.4, E 8.5, E 8.6

H. Science in Social and Personal Perspectives: H 8.2

Social Studies Standard:

A. Geography; People, Places and Environments: A 8.6, A 8.8, A 8.10,

#### **Recommended Duration:**

45 minutes to 90 minutes.

#### **Discussion Questions:**

Incorporated into procedure

**Resources, Materials, and Appendix items:**

This is a self-contained lesson plan as written. Additional suggested activities require additional materials.

**Activities and Procedures:**

(See "Erosion at the Lighthouse" activity starting on next page.)

**Other Suggested Activities:**

- Create a lighthouse ecosystem.
- Make a model of erosion. (Plant grass seed on one half of a pan. Once it grows, pour water over the entire surface, varying the slope of the pan. Have the students observe and conclude. This may be done orally or as a written exercise.
- Have the students access the Internet to research erosion in other National Parks.

**Evaluation and Assessment Procedures:**

Workbook Log



## **Erosion at the Lighthouse**

### **Theme:**

Lighthouses and the islands where they are located are prone to many forms of erosion.

### **Goals:**

The Students will:

- Have an overview of different weather at the lighthouse.
- Understand how rules can and cannot help things last longer.

### **Objectives:**

The Students will be able to:

- Name two types of weather that can deteriorate buildings.
- Identify two forms of erosion at the lighthouse.
- Create one rule for protecting the boathouse.
- Create one rule for helping slow erosion.

### **Props:**

- Large pan or plastic basin (2 for large groups).
- Sand, clay, rocks from the island.
- Toothpicks.
- Popsicle sticks.
- Cardboard boxes (cookies/animal cracker sized).
- Pitcher.
- Straws.
- Ice Cubes.
- Lighthouse logbook entries of drastic weather.
- Boathouse activity sheet



## **General History**

This is the boathouse. The original boathouse and dock were not placed here by the people who built the lighthouse in 1863. They were placed down at the sandy beach around the corner of the island from here (point along the island to the south). Part of the reason they were put there was to protect them from westerly gales that would smash harsh waves against the dock and rocks.

The lighthouse keeper was given a sailboat and a rowboat to use for lighthouse purposes only. This rule included going to town for supplies and servicing lighthouse property, such as buoys. It was not to be used for pleasure or fun. When not in use, it was to be stored in the boathouse.

Unfortunately, because the original boathouse was on the other side of the island and out of sight of the lighthouse keeper, sometimes the boat was stolen. A self-made rule may have been established by one of the more wary keepers, Francis Jacker, to keep the sailboat from being stolen. He kept it anchored out in front of the lighthouse whenever weather was good. No one would try to steal a boat when the weather was bad. However, this rule failed when Keeper Jacker tried moving the boat and didn't judge an approaching storm well.

(Read the logbook entry concerning Jacker's incident: being swept over to Oak Island).

Because of this event, the boathouse was moved to where it now sits, and a new rule was added: Keepers at Raspberry couldn't be stationed at the lighthouse by themselves; they had to bring their families with them.

Weather has affected both the lighthouse and the boathouse quite a bit. In 1901, a storm blew so hard that a shelter was erected on the front door of the lighthouse. When the lighthouse was remodeled in 1905, it was moved back farther from the shore, because clay banks were eroding and the edge of the island was creeping nearer to the lighthouse. The stairs are cement now, but in 1914, they were made of wood and were knocked down by a storm. In the 1920's the keepers returned to the lighthouse to find that the boathouse door was completely missing; it had been pulled away by the winter thaw of ice out in the channel.

## **Erosion Activity**

To show you what kind of damage erosion may have on a place, let's build an island. (Have kids build an island in the basin using clay, rock, and sand for foundation. The island should be about 8-10" high and about a foot, to a foot and a half in diameter. Toothpicks are for trees, popsicle sticks and cardboard are for the lighthouse, boathouse and dock.)

Now remember that an island is surrounded by water. (Gently fill the pan with water to about 1/3 of the way up the island.)

As you can see, just having water around the island can begin the erosion process. Larger waves speed up the erosion process. Let's all create a little wave action. First, let's begin by tapping lightly on the outside of the basin. (Have kids all tap lightly; after a minute, have them tap a little harder, then a little harder, but never pounding.) Notice how vulnerable the boathouse is in comparison to the lighthouse. Notice how the edge of the island is losing more than the top.



Another thing that can affect the erosion is rain. Everyone, spread your hands out above the island to represent rain clouds and I will pour the water over them so that it "sprinkles like a shower." (Pour water about a foot over students hands.) Notice how the water runs off the edges of the island. What parts are eroding the most? Let's make a bigger rainstorm (same activity, more water).

Another form of water that can affect the island is ice in the winter. (Pour ice cubes (about a half a bag) into tray surrounding island.) Ice can form in the channel and attach itself to rocks, sandstone cliffs and even the boathouse. When it breaks up it can peel back rocks, peel of paint, and chip wood. Worse yet, when it breaks up the ice starts moving around with the waves. Let's make some medium sized waves. What's happening? Finally, the ice will drift out into the lake and be ground down to nothing. Let's all slowly remove the ice from the outside working our way in to the island. When you start removing the ice from the island itself, watch what happens... Notice anything? More erosion.

A final, more subtle form of erosion is wind. (Blow wind through a straw.) Wind can affect other parts of the island. (Pick out 3-4 students to be wind and have them blow from different sides of the island, gently.) Wind in this form of erosion is very gradual and may take hundreds of years to have any impact. We may only notice it in leaves falling off the trees or a lighthouse keeper losing his hat from the tower. However, remember those westerly gales. Let's try one of those for size. (Have the students with the straws go to the west side of the island and blow as hard as they can, focusing them to the water in front of the boathouse, the lighthouse itself, and especially the trees along the edge of the island.) The winds affect the waves, cause blowdowns which speed up the erosion, and have been known to knock lightkeepers off ladders while they're painting. Winds can blow waves into twenty-five footers. To give you an idea of how big that is, a 25' will leap across both docks, and wash halfway up the shore.

A real bad storm, such as the ones lightkeepers commonly experienced in November combines all of these elements. Let's do that now. (Have kids play different parts, break them up into rain clouds, wave makers, and wind blowers. Put a little ice in the pan to represent the coldness of November.

### **History of Lightkeeper Stewardship**

The lighthouse keepers couldn't always rely on rules to prevent the lighthouse from falling apart. The most insidious form of erosion to the lighthouse keeper was not the storms, lightning, or pock-marks in the paint from hail, these were unforeseeable acts. The most insidious form of erosion was caused by not taking care of the lighthouse.

With as close to the water as the boathouse was (and the lighthouse for that matter) the moisture in the air would cause paint to peel faster and wood to rot faster. For this reason the boathouse and other buildings were painted every year. How many of you paint your house every year? Another thing that the keepers did to insure that their boats remained good was not only to paint them every year, boat also to repair them. This became a real chore when they got their first motorboat in 1911, especially since the motor was made of brass and keepers were required to keep all brass polished.

Another prevention of erosion that they did was to sandbag the clay banks in front of the lighthouse, to help slow down the erosion. Remember how fast clay eroded in our island scenario. And there was even a rule that they had to whitewash the sandbags.

The keepers took care of all of the aspects of their lighthouse. Some of the principles that guided them were rules, but others came from a sense that they should take care of them so that they would last forever. A person who takes care of something with pride so that it may last forever and others may enjoy it is called a steward. The lighthousekeepers were stewards of the lighthouse. A ranger is a steward of a forest or a park. But even you can help be stewards by showing that you want to care for something and help protect and preserve it. You could be stewards of a farm, of a family, or of your school. You could even become stewards of this place. If there are enough people that believe in protecting a place, that most people visiting the place abide by the rules to help keep it preserved, then everyone participates in a form of stewardship. They are all stewards riding on the same ship that allow people years from now to enjoy the same place they did.

### **Ending Activity**

A lack of stewardship can bring about deterioration. After the lightkeepers left, but before this place was a park, the lighthouse was falling apart. Fortunately several citizens decided to try and protect and preserve the Apostle Islands, and the lighthouse and boathouse were restored.

Humans can also directly impact on the rapid deterioration of a place. Remember where the boathouse originally was? (Wait for response.)

At the sandspit. For many years there was still a lighthouse boat down at the beach where the boathouse used to be. After many years of wind, waves, snow, ice, bugs, and deterioration, it met its demise by one of the fastest acting forms of erosion of all: people. A few people wanting to have a beach fire found what looked like a pile of rotting wood. They broke off pieces and hauled them to their beach fire. Very little remains of that boat because of it.

Because of the human abuse to not only the lighthouse boat, but a lot of the fragile vegetation on the beach and the human threat of fire to the rest of the island, a rule was established that would no longer allow beach fires on Raspberry Island. Still, the question remains: will this rule protect the virgin forest, the lighthouse, or even the boathouse? If you were Superintendent of the Apostle Islands National Lakeshore, what rules would you establish to help protect historic structures such as these?



## **Boathouse Activity Sheet:**

Develop one rule for:

1. Protecting the lighthouse from people
2. Protecting the lighthouse from erosion.
3. Protecting the boathouse from the weather.
4. Protecting boats from being stolen.

Exchange papers and write one way that each of these rules could be broken by weather, unforeseen events, or unusual circumstances.

- 1.
- 2.
- 3.
- 4.

If you were a lighthouse keeper, name four things that you would want to protect and preserve.

- 1.
- 2.
- 3.
- 4.

What are you a steward of ?

## **Stewardship of Lighthouses**

### **Lesson Plans**

#### **Lesson Title III: “Wrap it Up”**

Posttrip. Fostering a sense of stewardship in students will help them make informed decisions about preserving their heritage.

#### **Lesson Summary:**

The students will develop a rap, song, play or skit, or use the rap provided, incorporating information from the keepers' rules and the erosion activity. This information will depict stewardship. They will then present this to younger grades.

#### **Learning Objectives:**

Students will:

- Work in groups to create a rap, song, skit, or play.
- Perform this for younger grades.

#### **Wisconsin Curriculum Standards Integration Reference:**

English Language Arts Standard:

- A. Reading Literature: A 8.3, A 8.4
- B. Writing: B 8.1
- C. Oral Language: C 8.1, C 8.3
- D. Language: D 8.1

Science Standard:

- G. Science Applications: G 8.2, G 8.3, G 8.5
- H. Science in Social and Personal Perspective: H 8.2, H 8.3

Social Studies Standard:

- A. Geography; People, Places, and Environment: A 8.6, A 8.8
- B. History- Time, Continuity, and Change, B 8.5

#### **Recommended Duration:**

45 minutes to 90 minutes.

#### **Discussion Questions:**

- 1) What are the six keeper rules?
- 2) What does stewardship mean to you?



**Resources, Materials, and Appendix items:**

- Writing materials and paper
- Rap
- "Instructions to Keepers" from pretrip lesson of this unit.

**Activities and Procedures:**

- 1) The teacher will review the "Instructions to Keepers" role play and the stewardship portion of the erosion activity.
- 2) Teacher and students will decide what format they would like to do (play, skit, rap, or song.)
- 3) Teacher will give directions to the group.
- 4) Students will develop their project or use the rap provided.
- 5) Students will perform the end product and teachers will critique.
- 6a) Students will perform for other classes.
- 6b) If there is time, students can develop an invitation to send to the lower grades.

**Other Suggested Activities:**

- Create a stewardship mobile.
- Compose poetry, painting, or a poetic acrostic concerning stewardship or rules of behavior.
- Create an ABC rule book for younger students through illustrations and script. use one letter, A-Z, per page.

**Evaluation and Assessment Procedures:**

Students will perform their chosen drama activity for younger students. The drama needs to include the six keeper rules that they studied. they also need to incorporate the value of stewardship.

Workbook log

# THE LIGHTHOUSE "RULES"

by Debra Joanis, Susan Mackreth, Sally Mika

**S**EE THE NATIONAL PARK, WITH EVERYTHING INTACT.  
PRESERVING AND CONSERVING, DEPENDS ON HOW YOU AND  
KEEPERS ACT.

**T**HE LIGHTHOUSE "RULES", AND SO DID THE TRIP.  
FOLLOW ALL REGULATIONS AND YOU'LL HAVE A TRUE GRIP.

**E**VERY KEEPER MUST BE COURTEOUS , AND KEEP A WATCHFUL EYE,  
AT THE LIGHTHOUSE STATION , WHERE THE BEACON SWEEPS THE  
SKY.

**W**E WON'T SCRATCH INITIALS, OR CUT DOWN ANY TREES,  
OR TRAMPLE PLANTS AND BUSHES, WE CAN OR CANNOT SEE.

**A** KEEPER MUST KEEP, A LIGHTHOUSE OCCUPIED.  
THEIR JOB IS VERY SERIOUS, THEY ALWAYS MUST ABIDE.

**R**ELYING ON TEAMWORK, KEEPERS' TASKS THEY'LL SHARE.  
THE KEEPING OF A WATCH BOOK OR CLIMBING MANY STAIRS.

**D**ON'T ALLOW FOLKS TO BOTHER ANIMALS AND BIRDS OF SONG.  
THE KEEPER WILL ENFORCE THE FACT , THAT ANIMALS  
AND BIRDS BELONG.

**S**EE THE NATIONAL PARK, WITH EVERYTHING INTACT.  
PRESERVING AND CONSERVING , DEPENDS ON HOW YOU AND  
KEEPERS ACT.

**H**OPE WE WILL REMEMBER ,THE IMPORTANCE OF THE TASK.  
KEEP THE PARK A TREASURE, WE KNOW IT WILL LAST.

**I** WILL ALWAYS REMIND MYSELF, AND OTHERS I WILL TELL,  
ABOUT THE LIFE OF A KEEPER AND OF WORKING TOGETHER WELL.

**P**LEASE NEVER FORGET, ABOUT THE PASSAGE OF TIME,  
OF A KEEPER, WHOSE LIFE, AFFECTED YOURS, THEIRS AND MINE.

**S**EE THE NATIONAL PARK WITH EVERYTHING INTACT.  
PRESERVING AND CONSERVING , DEPENDS ON HOW YOU  
AND KEEPERS ACT!

